

# **VERITAS NetBackup Vault™ 6.0**

## **Operator's Guide**

**for UNIX, Windows, and Linux**

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# Preface

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NetBackup Vault simplifies the processes of image duplication, off-site storage, and off-site retrieval for both storage administrators and systems operators.

This *Operator's Guide* is intended for those who operate the robots and libraries and send and retrieve volumes to and from off site storage.

## Getting Help

You can find answers to questions and get help from the NetBackup documentation and from the VERITAS technical support web site.

## Finding NetBackup Documentation

A list of the entire NetBackup documentation set appears as an appendix in the *NetBackup Release Notes*. All NetBackup documents are included in PDF format on the NetBackup Documentation CD.

For definitions of NetBackup terms, consult the online glossary.

### ▼ To access the NetBackup online glossary

1. In the NetBackup Administration Console, click **Help > Help Topics**.
2. Click the **Contents** tab.
3. Click **Glossary of NetBackup Terms**.

Use the scroll function to navigate through the glossary.

## Accessing the VERITAS Technical Support Web Site

The address for the VERITAS Technical Support Web site is <http://support.veritas.com>.

The VERITAS Support Web site lets you do any of the following:



- ◆ Obtain updated information about NetBackup Vault, including system requirements, supported platforms, and supported peripherals
- ◆ Contact the VERITAS Technical Support staff and post questions to them
- ◆ Get the latest patches, upgrades, and utilities
- ◆ View the NetBackup Vault Frequently Asked Questions (FAQ) page
- ◆ Search the knowledge base for answers to technical support questions
- ◆ Receive automatic notice of product updates
- ◆ Find out about NetBackup Vault training
- ◆ Read current white papers related to NetBackup Vault

From <http://support.veritas.com>, you can complete various tasks to obtain specific types of support for NetBackup Vault:

1. Subscribe to the VERITAS Email notification service to be informed of software alerts, newly published documentation, Beta programs, and other services.
  - a. From the main <http://support.veritas.com> page, select a product family and a product.
  - b. Under Support Resources, click **Email Notifications**.

Your customer profile ensures you receive the latest VERITAS technical information pertaining to your specific interests.
2. Locate the telephone support directory at <http://support.veritas.com> by clicking the **Phone Support** icon. A page appears that contains VERITAS support numbers from around the world.

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**Note** Telephone support for NetBackup Vault is only available with a valid support contract. To contact VERITAS for technical support, dial the appropriate phone number listed on the Technical Support Guide included in the product box and have your product license information ready for quick navigation to the proper support group.

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3. Contact technical support using e-mail.

- a. From the main <http://support.veritas.com> page, click the **E-mail Support** icon.  
A wizard guides you to do the following:
  - ◆ Select a language of your preference
  - ◆ Select a product and a platform
  - ◆ Provide additional contact and product information, and your message
  - ◆ Associate your message with an existing technical support case
- b. After providing the required information, click **Send Message**.

## Contacting VERITAS Licensing

For license information, you can contact us as follows:

- ◆ Call 1-800-634-4747 and select option 3
- ◆ Fax questions to 1-650-527-0952
- ◆ In the Americas, send e-mail to [amercustomercare@veritas.com](mailto:amercustomercare@veritas.com).  
In the Asia and Pacific areas, send email to [apaccustomercare@veritas.com](mailto:apaccustomercare@veritas.com).  
In all other areas, send email to [internationallicense@veritas.com](mailto:internationallicense@veritas.com).

## Accessibility Features

NetBackup contains features that make the user interface easier to use by people who are visually impaired and by people who have limited dexterity. Accessibility features include:

- ◆ Support for assistive technologies such as screen readers and voice input (Windows servers only)
- ◆ Support for keyboard (mouseless) navigation using accelerator keys and mnemonic keys

For more information, see the *NetBackup Installation Guide*.



## Comment on the Documentation

Let us know what you like and dislike about the documentation. Were you able to find the information you needed quickly? Was the information clearly presented? You can report errors and omissions or tell us what you would find useful in future versions of our manuals and online help.

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Please only use this address to comment on product documentation. See “Getting Help” in this preface for information on how to contact Technical Support about our software.

We appreciate your feedback.





# Introduction

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This guide explains vaulting procedures as part of two major task areas: administrative and operational. At some sites, different personnel do the different tasks; at other sites, the same personnel do all the tasks. Your site may assign the responsibilities differently than they are discussed in this guide.

The storage administration tasks are summarized in this chapter; operational tasks are documented in “Operational Procedures” on page 5.

## Background

At a high level, vaulting is the process of sending backup images off site to a protected storage location. NetBackup Vault simplifies the processes of image duplication, off-site storage, and off-site retrieval for both storage administrators and systems operators. Its purpose is to assist in disaster recovery by creating duplicate copies of backup tapes and of the NetBackup catalog.

If backup tapes are destroyed at a primary data center location, Vault ensures that copies of selected backups are available at an off-site location. Vault keeps track of the copies and requests these tapes to be returned from the off-site location after a specified period of time.



# Administration and Operations Tasks

The following table summarizes the responsibilities for both storage administration and storage operations in the table below to help system operations staff understand how to gain necessary support. Detailed operations instructions are provided in the next chapter.:

Vault Tasks	
Storage Administration	Storage Operations
Installation and configuration of Vault.	Receiving daily notification of session completion.
Running and monitoring daily Vault sessions to ensure they complete.	Removing off-site tapes from robotic libraries.
Administering tape media to ensure sufficient media available for each day's duplicates.	Comparing off-site tapes to be sent from library with report to send to off-site vendor.
Resolving conflicts between printed reports and off-site vendor media status.	Sending off-site tapes to off-site vendor.
Resolving issues about tapes improperly ejected.	Receiving returned tapes from off-site vendor.
Manually recovering media.	Comparing returned tapes with report from off-site vendor.
	Inserting returned tapes into robotic libraries.
	Reporting discrepancies between reports and the tapes on-hand to storage administration.
	Re-running reports as needed.
	Periodic auditing of media on site.



## Summary of Storage Administration Responsibilities

Briefly, storage administration does the following:

- ◆ Installs Vault. Storage administration installs Vault on a NetBackup master server. For more information on how to install Vault, please refer to the *NetBackup Vault System Administrator's Guide*.
- ◆ Configures Vault. Storage administration provides configuration information in profiles, which contain the rules Vault uses to select images to duplicate and/or eject from the robot.

Storage Administration accesses Vault through the NetBackup Administration Console or through the Vault Administration menu user interface (vltadm).

- ◆ Monitors Vault. Storage administration monitors Vault activity by using the NetBackup Administration Console and by reading the session log files for information about vault sessions. If e-mail notification is enabled in the profile, session information is sent to the appropriate personnel..
- ◆ Administers Media. Storage administration determines which volume pools and volume groups will hold the media and must allocate sufficient media for vaulting needs.
- ◆ Notifies Operations of Change in Status. Storage administration must report any change in daily run status to operations. In most situations, Vault jobs are scheduled to run each day. If duplications are postponed for some reason, storage administration should notify operations of job status.

This chapter provides instructions for each of the Vault operational procedures. The operational procedures in this guide document how to remove tapes from the robotic libraries, run Vault reports, compare the tapes and the reports, and send the tapes to an off-site vendor.

The primary tool used by the Vault operator is the Vault Operator Menu user interface.

## Using the Vault Operator Menu Interface

Operational access to Vault is provided through the Vault Operator Menu user interface. The Vault Operator Menu interface lets an authorized user eject and inject tapes and print reports for one or more Vault sessions (an authorized user is one who can invoke the `vltopmenu` command).

The following is the main Vault Operator Menu screen:

```
NetBackup Vault Operator Menu

Current Profile: None
Current Session: 0
Current Report Destinations - Print command: /usr/ucb/lpr
                        Email:
                        Directory:

p) Select Profile          m) Modify the Report Destinations...
u) Profile Up             r) Run Reports for This Session
d) Profile Down           v) Run Individual Reports...
s) Select Session

i) Inject Media into Robot cr) Consolidate All Reports
e) Eject Media for This Session ce) Consolidate All Ejects
                                re) Consolidate All Reports and Ejects

                                c) Container Management...

q) Quit
Selection-->
```



The Vault Operator Menu screen displays the current profile, current session, and current report destinations. To select an option, type the number of the option, then press Enter.

The Vault Operator Menu is started by the `vltopmenu` command, which is located in the following directory:

UNIX: `/usr/opensv/netbackup/bin`

Windows: `install_path\NetBackup\bin`

The `vltopmenu` command writes messages about its operations to the log file for Vault commands:

- ◆ UNIX: `/usr/opensv/netbackup/logs/vault/log.mmdyy`
- ◆ Windows: `install_path\NetBackup\logs\vault\mmdyy.log`

The following describe the menu options:

<b>p) Select Profile</b>	Use this option to select a profile.
<b>u) Profile Up</b>	Use this option to select the previous profile.
<b>d) Profile Down</b>	Use this option to select the next profile.
<b>s) Select Session</b>	You this option to select a specific session for the current profile.
<b>i) Inject Media into Robot</b>	Use this option to moves media from the media access port (MAP) to the library slots.
<b>e) Eject Media for This Session</b>	Use this option to eject media from this session.
<b>m) Modify Report Destinations</b>	Use this option to change the print command, the e-mail addresses to which the reports are sent, and the directory to which report files are written.
<b>r) Run Reports for This Session</b>	Use this option to generate reports for the current session and distribute them as defined in the profile (print and/or distribute by e-mail).
<b>v) Run Individual Reports</b>	Use this option to select individual reports to generate and distribute.
<b>cr) Consolidate All Reports</b>	Use this option to generate reports for any vault that has not had reports generated for a given session.

- |   |  |
|---|--|
| <b>ce) Consolidate All Ejects</b>             | Use this option to eject media for any vault that has not had media ejected for a given session.   |
| <b>re) Consolidate All Reports and Ejects</b> | Use this option to ejects media from all vault sessions and run the reports as configured in the profiles. You can eject media and run reports for a single vault or for all vaults. |
| <b>c) Container Management</b>                | Use this option to add volumes to containers, view or change a container's return date, or delete a container.   |
| <b>q) Quit</b>                                | Use this option to quit the interface.   |

## Summary of Operational Procedures

- ◆ Receive daily notification of completed Vault sessions.
- ◆ Remove tapes from library.
- ◆ Compare ejected tapes with report.
- ◆ Send tapes off-site.
- ◆ Receive expired tapes from off-site vendor (daily or weekly).
- ◆ Compare tapes received with session status, and notify storage administration of any discrepancies.
- ◆ Re-run reports, if necessary.
- ◆ Run the audit report, and notify storage administration of any discrepancies.
- ◆ Resolve eject problems by manually ejecting tapes.

## Receiving Vault Reports

Each time the vaulting process is run, reports are sent to various staff members to notify them that vaulting is finished. Operations should receive a copy of the daily Picking List for Robot report. This report is meant to notify operations that a job has completed and that tapes are being ejected from the library.

### ▼ Follow these steps when you receive the report

1. Determine who is responsible for processing the ejected tapes.
2. Retrieve printed reports from the assigned printer, if applicable.



3. Retrieve ejected tapes from the library doors.
4. Prepare tapes for off-site storage.
5. Compare ejected tapes with the Picking List for Robot.
6. Work with Storage Administration to resolve any discrepancies.

If you do not receive the reports by a predetermined time it may be difficult to process the tapes in time for off-site vendor delivery and pickup. Contact storage administration to determine if there are any problems with a given vault session. They can monitor the current jobs and interrupt them to allow the session to finish on time.

## Removing Tapes from a Library

How libraries process media ejections depends on their robotic capabilities. Robots that have media access ports (MAPs) place ejected media into one of their MAPs, and you must remove the media from the slots in the MAP. For ACS robots that have multiple MAPs, media are placed in the MAP nearest the media volume (depending on configuration of the vault). For robots that do not have MAPs, you must remove the media from the library slots in the robot.

When ejection occurs depends on whether the vault is configured for immediate or deferred ejection.

If Vault is configured for immediate ejection, the robot ejects the media into the MAP during the vault session and extends the MAP so you can remove the media. If more media are selected for ejection than the capacity of the MAP, Vault fills the MAP again and ejects the media, continuing the process until all media are ejected.

If vault is configured for deferred ejection, you must eject the media and generate the reports manually. If the vault includes more media than will fit in the MAP, you must remove all ejected media before the robot will process the next set of media. To eject media manually and generate reports, you can use the Vault Operator Menu.

The robot should eject the tapes in order of Media ID and Slot ID. Vault assigns a new Slot ID on a session-by-session basis, in Media ID order. The order of ejected tapes should match the order that tapes are listed on the Picking List for Robot report because it is organized by Slot ID. Exception: If off-site slot IDs from tapes that have returned from the vault are reused, the order may not match.

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**Caution** If media are not removed and a timeout condition occurs, the media are returned to (injected into) the library slots in the robot. If this occurs, you should inventory the robot (see the Managing Media in Robots chapter of the *Media Manager System Administrator's Guide*) and then eject the media that was returned to the robot (use `vltopmenu` to eject the media).

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## Comparing Tapes with Reports to Send to the Off-site Vault

There are several reports you will refer to in processing daily work. We recommend that you send both printed and e-mail copies of all reports to staff members involved.

- ◆ **Picking List for Robot.** The Picking List for Robot report lists the tapes you must remove from the robot, which should be the same tapes the robot ejected. The media ID should match the tape label. Slot ID should be in ascending order and should not match any slot in use at the off-site vendor or any slot used by a tape in transit to or from the off-site vendor. The Date Assigned should be the same date as the report. Expiration dates will vary depending on the retention period of the backup policy. If the report does not list any media, Vault did not eject any media during the session.
- ◆ **Distribution List for Vault.** Include this report with the media that is going off-site. It contains the same information as the Picking List for Robot, but is intended for distribution to the off-site vendor with the tape batch.
- ◆ **Picking List for Vault.** The Picking List for Vault report shows tapes requested for return from the off-site vendor. Provide the off-site vendor with a copy of this report with each batch of media that goes off-site so they will return the expired tapes. The report will not list any tapes if no tapes have expired on the reporting day. Give a copy to the off-site vendor whether or not it lists any tapes.
- ◆ **Distribution List for Robot.** The Distribution List for Robot contains information on the same tapes as the Picking List for Vault report. These tapes will not arrive on site for at least one day. Make sure the report is available when the tapes arrive the following day. Do not file the report until the tapes are checked in.
- ◆ **Vault Inventory.** The Vault Inventory report shows all the tapes that will be in the off-site vault after the off-site vendor receives the daily batch and they have removed all the tapes shown in the Distribution List for Vault report. Provide one copy of this report to the vendor with each batch. Place another copy in an easily accessible location.

Other reports may be printed after a vault session. The storage administration team should notify operations of all reports that will be printed and which reports need to be sent off site. For example, the administration team may print detailed distribution lists that show the actual data stored on each tape.

## Sending Reports and Tapes to the Off-site Vendor

We suggest the following steps as a guideline only; your site may have different procedures in place. After you have received all reports and compared the tapes intended for off-site storage to the reports, you must prepare the tapes and appropriate reports for pickup by the off-site vendor.



▼ **To prepare tapes for pickup**

1. Use only containers specified by Operations or Storage Administration.
2. Include the Vault Inventory, Distribution List for Vault, and Picking List for Vault reports.
3. Complete the off-site vendor pickup form. Note container numbers, vault number, and date of shipment.
4. File a copy of the Picking List for Robot report in an accessible location. Sign off for completion.
5. Place a copy of the Distribution List for Robot report in an accessible location. This report is a reference for returning tapes.

## **Receiving Tapes from the Off-site Vendor Vault**

We suggest the following steps as a guideline only; your site may have different procedures in place. The off-site vendor will return tapes that have been requested, usually the preceding day. You need to compare the tapes received from the off-site vendor to the reports listing the tapes you expect to receive to ensure that you have received the full set of tapes.

▼ **To compare tapes received to report**

1. Find the Distribution List for Robot report. This is normally the previous day's report.
2. Compare the tapes you have received from the off-site vendor with the report. Notify storage administration if there are any discrepancies which you cannot resolve with the off-site vendor.
3. Remove the tapes from the containers and enter them into the robot according to your normal operating procedures. Be sure not to skip any slots because the robot may not reload the tapes properly. If you are using Media Manager controlled robots (such as TLD or TL8), run the inject process as specified by storage administration.
4. Sign off the report and file in the proper location.
5. You must resolve all discrepancies (outgoing or returning). Do not file a report until you have resolved all discrepancies.

## Report Discrepancies

If you find report discrepancies, we suggest you run one or more reports to audit the location of your media. One option is to run the Off-site Inventory report. Look for unassigned tapes that have been left in the off-site vaulting location, and look for expired media that has not been recalled. The All Media Inventory report also may be useful; it shows media on site, media in transit, and media off site.

Expired media may not be recalled in the following circumstances: A tape is only called back once. If a tape is not picked up (for example, if the report is not run, or if it is a holiday) on the day the report recalling it is generated, that tape media ID does not appear on the following reports, and the piece of media may be forgotten. The Lost Media Report will show media that was not picked from the vault as scheduled.

## Rerunning Reports

You may choose to re-run a report because you lost the original copy, or because you want updated information. Use the Vault Operator Menu to rerun reports.

### ▼ To rerun a report

1. Log into the machine on which the NetBackup master server is installed.
2. Run `vltopmenu` as follows, using the name of the profile for which you want to run reports:

```
vltopmenu profile
```

The Vault Operator Menu will regenerate the reports for the most recent session. Select the report or reports you wish to rerun.

## Printing Reports from a Previous Day

Change the session number to run a report from a previous day. Choose **Select Session**, and enter the number of the session for which you would like to re-run reports.

## Sending Reports through E-mail

You may change the report destination to allow the report to be sent through e-mail. First select **Modify the Report Destinations**, then select **Modify E-mail address(es)**, and finally enter the e-mail address(es) to which the reports should be e-mailed.

Windows: configure the `nbmail.cmd` script in the `\bin` directory.



## **Saving a Report to a File**

You can save the reports to a file. First select **Modify the Report Destinations**, then select **Modify Directory Destination**, and finally enter the pathname of a directory in which you want the report files stored.

## **Running the Audit Report**

You can use the All Media Inventory report as an audit report. It prints out a full inventory of all media used for duplication of backups. First, it prints out all the media in the robot that is used for duplicates, and then all the media that is in the off-site vault. This information is printed in order by media ID.

## **Resending Eject Commands (Manually Ejecting Tapes)**

Select **Eject Media for This Session** allows you to resend the eject commands from a particular session.

Normally, this option is only used if the eject process was interrupted and some media were not ejected from the library. This option would also be used if the number of tapes you needed to eject exceeded the size of the MAP. If there are still discrepancies between ejected media and the Vault reports after using this command, contact storage administration.

## **Injecting Tapes into Robot**

Choosing **Inject Media into Robot** moves tapes from the media access port (MAP) to the library slots and updates the volume database.

If any problems occur during this process, contact storage administration.

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